

Claims

1. A method of managing SMS messages in a first mobile operator network, said network comprising a plurality of subscribers and a Short Message Service Centre (SMSC), the method comprising the steps of:

5 starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC;
intercepting transparently to the SMSC said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message;
10 routing said intercepted SMS message delivery attempt via a smart services control node in the network;
examining said message delivery attempt for possible invocation of a smart service to said SMS message; and
invoking said smart services for said SMS message destined to said subscriber in
15 response to said examination.

2. A method of managing SMS messages, as claimed in claim 1, between a subscriber of the first mobile operator network and another subscriber of a second mobile operator network in a telecommunications system, the method comprising the steps of:

20 delivering a SMS message from said first subscriber in said first mobile operator network to said subscriber of said second mobile operator network;
intercepting a SMS message inbound delivery attempt in said second mobile operator network before delivery of said SMS message;
routing said intercepted SMS message delivery attempt via a smart services
25 control node in second operator mobile network;
examining said message delivery attempt for possible invocation of a smart service to said SMS message; and
invoking said smart services for said SMS message destined to said subscriber of said second mobile operator network in response to said examination.

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3. A method of managing SMS messages as claimed in claim 1 or 2 wherein the step of intercepting includes intercepting an inbound HLR query associated with said message delivery attempt.

4. A method of managing SMS messages as claimed in claim 3 comprising the step of examining said intercepted HLR query such that said HLR query provides an indication that a smart service needs to be applied to said SMS message and route the SMS
5 message to the smart services control node.

5. A method of managing SMS messages as claimed in claim 4 wherein said indication from the HLR Query is associated with one or more of the following: a SMS service, a specific subscriber directory number (MSISDN), a directory number in the HLR Query
10 matches a specific number prefix, a specific SMSC identified by its PLMN network address, a foreign SMSC network address.

6. A method of managing SMS messages as claimed in claim 4 comprising the step of replacing a mobile network location address of said second subscriber with the network
15 location address of the smart services control node such that the first mobile network operator routes said SMS message via said smart services control node.

7. A method of managing SMS messages as claimed in any preceding claim wherein the step of intercepting said message delivery attempt is based on a condition that said
20 query originated from said SMSC or another mobile network.

8. A method of managing SMS messages as claimed in any of claims 6 or 7 comprising the step of routing said SMS message from said smart message control node to said real location address wherein said SMS message is routed to said real network location
25 address from an address stored in said smart services control node previously obtained from said intercepted HLR query.

9. A method of managing SMS messages as claimed in any of claims 1 to 8 comprising the step of terminating said SMS message delivery attempt in the said smart services
30 control node when the said smart service requires that the said SMS message is not delivered to the said subscriber of the said second operator network.

10. A method of managing SMS messages as claimed in any of claims 1 to 9 comprising the step of terminating said SMS message delivery attempt when said condition of said intercepted delivery attempt indicates in said second operator network that said SMS message originates from a barred originating entity belonging to another
5 network.

11. A method of managing SMS messages as claimed in any of claims 1 to 10 comprising the step of triggering the execution of smart service logic associated with said smart services SMS control node in response to condition based on the content of
10 said SMS message.

12. A method of managing SMS messages as claimed in claim 11 wherein said trigger condition is a meta tag signal or attribute associated with said SMS message.

13. A method of managing SMS messages as claimed in any of claims 1 to 12 comprising the step of generating a unique identifier for said SMS message at said smart services SMS control node.
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14. A method of managing SMS messages as claimed in claim 13 wherein said unique identifier is generated from one or more of the following SMS message parameters: Originating Address, Destination Address, message fragment number, SMSC address or SMS Centre timestamp.
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15. A method of managing SMS messages as claimed in claim 13 comprising the step of storing said unique identifier in a storage memory of said smart services control node.
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16. A method of managing SMS messages as claimed in claims 13 to 15 comprising the step of comparing the generated unique identifier with unique identifiers for each SMS message delivery attempt processed by said smart services SMS node for detecting a subsequent attempt of an SMS message from a remote SMSC after the first delivery attempt.
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17. A method of managing SMS messages as claimed in claim 16 wherein only unique identifiers are stored in said storage memory for retry SMS delivery attempts for comparison and wherein said retry SMS delivery attempt is routed onwards by the smart services control node to the real network location address of the said subscriber after
5 said comparison.

18. A method of managing SMS messages as claimed in claim 17 wherein the onward routing is conditionally based on a service indicator associated with the smart services control node.

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19. A method of managing SMS messages as claimed in any of claims 13 to 18 comprising the steps of generating a database of unique identifiers in said storage memory and deleting said stored unique identifiers after a preset period of time.

15 20. A method of managing SMS messages, between a subscriber of the first mobile operator network and another subscriber of a second mobile operator network in a telecommunications system, the method comprising the steps of:

delivering a SMS message from said first subscriber in said first mobile operator network to said subscriber of said second mobile operator network;
20 intercepting a SMS message inbound delivery attempt in said second mobile operator network before delivery of said SMS message;
routing said intercepted SMS message delivery attempt via a smart services control node in second operator mobile network;
examining said message delivery attempt for possible invocation of a smart
25 service to said SMS message; and
invoking said smart services for said SMS message destined to said subscriber of said second mobile operator network in response to said examination.

21. A computer program comprising program instructions for causing a computer to
30 perform the method of any one of claims 1 to 20.

22. A computer program as claimed in claim 21 embodied on a record medium

23. A computer program as claimed in claim 21 embodied on a carrier signal.

24. A computer program as claimed in claim 21 embodied on a read-only memory.

5 25. A system of managing SMS messages in a first mobile operator network, said network comprising a plurality of subscribers and a Short Message Service Centre (SMSC), the system comprising:

means for starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC;

10 means for intercepting transparently said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message;

means for routing said intercepted SMS message delivery attempt via a smart services control node in the network;

15 means for examining said message delivery attempt for possible invocation of a smart service to said SMS message; and

means for invoking said smart services for said SMS message destined to said subscriber in response to said examination.

20 26. A system of managing SMS messages, as claimed in claim 25, between a subscriber of the first mobile operator network and another subscriber of a second mobile operator network in a telecommunications system, the system comprising:

means for delivering an SMS message from said subscriber in said first mobile operator network to said subscriber of said second mobile operator network;

25 means for intercepting the SMS message inbound delivery attempt in said second mobile operator network before delivery of said SMS message;

means for routing said intercepted SMS message delivery attempt via a smart services control node in second operator mobile network;

means for examining said message delivery attempt for possible invocation of a smart service to said SMS message; and

30 means for invoking said smart services for said SMS message destined to said subscriber of said second mobile operator network from said examination.